

CLAIMS

What is claimed is:

1. A duplexer for a media handling system, said duplexer comprising:
a sheet barrier suspended between upper and lower rotation points, wherein said sheet barrier comprises a belt having at least one barrier separated by at least one opening, and wherein said sheet barrier rotates about said upper and lower rotation points; and
retractable pinch rollers disposed at an entry to said duplexer, wherein said retractable pinch rollers retract when one of said at least one barrier is rotated near said entry to said duplexer,
wherein media enters said duplexer through one of said at least one opening.
2. The media duplexer of claim 1 further comprising entry and exit pinch rollers, wherein, when said retractable pinch rollers are retracted, said entry pinch rollers hold said print media entering said duplexer and said exit pinch rollers hold said print media exiting said duplexer.
3. The media duplexer of claim 1 wherein said retractable pinch rollers move into an entry position to accept said print media entering said duplexer.
4. The media duplexer of claim 1 wherein said retractable pinch rollers move into an exit position to expel said print media exiting said duplexer.
5. The media duplexer of claim 1 wherein said upper and lower belt pulleys rotate said sheet barrier using one of:
a tractor drive;
a chain drive;
a slotted belt drive; and
a friction belt drive.
6. The media duplexer of claim 1 wherein said media handling system comprises one or more of a printer, a scanner, a fax, and a multifunction device.

7. The media duplexer of claim 1 wherein said barrier material comprises at least one of:

polyamide;
fabric;
plastic; and
rubber.

8. The media duplexer of claim 7 wherein said barrier material exhibits one or more of:

anti-static property;
non-stick property;
rigidity across a width of said sheet barrier; and
flexibility.

9. The media duplexer of claim 1 wherein said print media exits said duplexer thru one of said at least one opening.

10. A method for accommodating two pages in a duplexer at the same time, said duplexer having a rotating barrier disposed therein, said rotating barrier having barrier material separated by an open gap, said method comprising:

pushing a current page into an exit path from said duplexer through one of said open gaps;

directing a next page into an input path;

rotating said barrier material between said next page entering said duplexer and said current page exiting said duplexer, wherein said one of said open gaps is positioned to allow said current page to exit said duplexer;

pulling said current page completely from said duplexer; and

rotating another of said open gaps into a position opening said exit path to said next page.

11. The method of claim 10 further comprising:

pushing said next page into said exit path.

12. The method of claim 10 further comprising:
retracting a set of retractable pinch rollers within said duplexer when said barrier material is rotated between said next page and said current page.

13. The method of claim 12 further comprising:
pinching said set of retractable pinch rollers when said open gaps are rotated.

14. The method of claim 12 further comprising:
reversing a direction of said set of retractable pinch rollers to change said direction of one or more of said current page and said next page.

15. The method of claim 12 further comprising:
shifting said set of retractable pinch rollers to an output position to expel said current page; and
shifting said set of retractable pinch rollers to an input position to accept said next page into said duplexer.

16. A system for a changing media orientation in a media handling system, said system having a revolving obstructer disposed therein, said revolving obstructer having at least one opening therein, said system comprising:
means for directing a media page within said system to an exit path through one of said at least one opening;
means for rotating said barrier material between a next page entering said system and said current page exiting said system, wherein one of said at least one opening is positioned to allow said current page to exit said system;
means for pulling said current page completely from said system; and
means for rotating said at least one opening into a position exposing said exit path to said next page.

17. The system of claim 16 further comprising:
means for pushing said next page into said exit path.

18. The system of claim 16 further comprising:
means for retracting a set of retractable pinch rollers within said system when said barrier material is rotated between said next page and said current page.
19. The system of claim 18 further comprising:
means for pinching said set of retractable pinch rollers when said at least one opening is rotated.
20. The system of claim 18 further comprising:
means for reversing a direction of said set of retractable pinch rollers to change said direction of one or more of said current page and said next page.
21. The system of claim 18 further comprising:
means for shifting said set of retractable pinch rollers to an output position to expel said current page; and
means for shifting said set of retractable pinch rollers to an input position to accept said next page into said system.
22. The system of claim 16 wherein said media handling system comprises one of a printer, a scanner, a fax, and a multifunction unit.